

PUBLIC COMMENTS ON THE THOROUGHbred GENERATING STATION (TGS) DRAFT PERMIT, AND DIVISION FOR AIR QUALITY RESPONSES

The Division for Air Quality (DAQ) has given each commentor an abbreviation, as follows:

AC	Atmospheric Conservation (Adam Chambers - 2/27/2002)
Baker	Frances B. Baker (2/28/2002)
CATF	Clean Air Task Force, Environmental Defense & Hoosier Environmental Council (2/28/2002) Clean Air Task Force (8/23/2002)
EEPA/VC	Evansville Environmental Protection Agency/Vanderburgh County Ozone Office (2/25/2002) <i>[also incorporates IDEM 2/7 comments]</i>
EPA	Environmental Protection Agency (2/26/2002 and 8/18/2002)
Finto	Kevin Finto
IDEM	Indiana Department of Environmental Management (2/7/2002 and 8/23/2002)
KRC	Kentucky Resources Council, Inc. (2/28/2002) <i>[also incorporates NPS 2/14 Comments and previous comments]</i>
Loeschner	Stephen A. Loeschner (2/21 and 2/25/2002)
McGhee	Jerry McGhee, homeowner (2/21/2002)
Mitch	Charles Mitch (2/11/2002 and 8/24/2002)
NPS	U.S. Dept. of Interior, National Park Service (2/14/2002) <i>[comments do not include review of revised modeling analysis received 2/6/2002]</i>
NPCA	National Parks Conservation Association (2/28/2002)
NRDC	Natural Resources Defense Council (2/28/2002)
OVCG	Ohio Valley Common Ground (2/20/2002)
SC(Bhatt)	Sierra Club Cumberland Chapter (2/24/2002)
SC(Landers)	Serra Club Cleveland Office (2/28/2002) <i>[also incorporates American Lung Association of Metropolitan Chicago, et al. 8/24/2002]</i>
SC(Dew)	Sierra Club Cumberland Chapter (2/28/2002)
VW	Valley Watch, Inc. (2/26/2002 and 8/22/2002) <i>[also incorporates NPS 2/14 and IDEM 2/7 comments]</i>
JCAPDC	Jefferson County Air Pollution Control District (4/20/02 & 7/12/02)
Richards	Steve Richards (8/08/02)
SMW	Sheet Metal Workers' International Association (8/23/02)
OBTC	Owensboro Building and Trade Council (8/24/2002)

The following comments were received during the public comment period on the proposed Prevention of Significant Deterioration (PSD), Title V, and Acid Rain operating permit for Thoroughbred Generating Station (“the applicant”).

Compliance averaging for Boiler emissions

Three (EPA, IDEM and VW) commentors raised concerns about the averaging time included in the permit. EPA suggested that KDAQ should take into account the 30-day compliance averaging period in developing final BACT emissions limits and thus set lower emission limits for NO_x, SO₂ and CO on the basis that the 30-day averaging period would smooth out any peaks in emissions. VW wants shorter averaging times and questions the enforceability of the current CO averaging time.

Response: A 30-day BACT averaging period is consistent with other permits issued by the Division and other agencies for coal combustion, as coal is a non homogenous material. The Division has revised the proposed permit to include 24-hour block averaging times for SO₂ to ensure protection of the National Ambient Air Quality Standards and the Class I increment (Mammoth Cave)

PSD impact limits not enforceable

OBTC had concerns that the permit limits expressed in terms of pollutant per BTU of coal combusted did not limit total emissions.

Response: The Division does not concur that the limits as expressed do not practically limit the emissions and the impacts on increments. While limits in terms of pounds per hour are not directly expressed as such in this permit, TGS does not have the authority to operate at any rate higher on a short term basis than their modeling demonstration.

Pre-construction monitoring

Six commentors (NRDC, NPCA, EEPA/VC, CATF, Loeschner and VW) had concerns about pre-construction monitoring. NRDC believes the TVA monitor is an inadequate substitute for pre-construction monitoring; wants 4 months of continuous monitoring and submittal of revised permit application. NPCA agrees with NRDC regarding the TVA monitor and wants 4 months monitoring for SO₂ and 1 year monitoring for VOCs. EEPA/VC wants pre- and post-construction air quality monitoring as a permit condition. Loeschner believes the TVA monitor is not representative, wants 1 year of monitoring, and questions the lack of public participation with regard to DAQ’s issuance of a letter setting forth the pre-construction monitoring requirements. VW argues for 1 year of pre-construction monitoring for ozone, PM, CO, lead, SO₂, and questions the applicability of TVA data.

Response: The Division has regulations pertaining to pre-construction monitoring that allow exemptions when the highest modeled concentrations are below significant monitoring values (SMV). The Division concurred with the applicant’s request to use TVA data for SO₂, which was the only pollutant with emissions above SMV, in a letter dated September 22, 2000.

Secondary emissions from on-site SWD

CATF raised concerns about secondary air emissions generated from disposal of coal combustion wastes (e.g., fly ash) in the on-site landfill; in particular, secondary emissions of mercury, NO_x, nitrogen and fine particulates. Two other commentors (IDEM and VW) are concerned about secondary PM emissions associated with fly ash disposal and suggest truck loading from fly ash silos should be done in an enclosed area and fugitive emissions from the disposal area should be subject to fugitive dust control measures as specified in the permit.

Response: As indicated in the application and supporting documentation submitted by the applicant and reviewed by the Division, the facility is being designed to employ BACT to reduce material handling emissions (e.g., use of covered conveyors and controlled drop points for material transport). The Division believes this design provides adequate controls. CATF data are for the management of wet ponds (i.e., discharge from ash sluicing operations), which are not part of the design. The applicant will use dry handling techniques. Finally, nitrogen is not a pollutant that is regulated under the CAA or Kentucky law

MACT

Eight commentors (EPA, NRDC, Mitch, Loeschner, CATF, NPCA, IDEM and VW) had comments concerning MACT:

MACT review

Five commentors (EPA, NRDC, Mitch, Loeschner and CATF) stated that the MACT case-by-case determination was incomplete. Loeschner and CATF indicated, in particular, that the MACT failed to address all HAPs, and CATF objected to the interchangeable use of baghouse and electrostatic precipitators as MACT.

Response: The application and supporting documents submitted by the applicant include a case-by-case MACT determination. The Division has reviewed the MACT determination and judged it to be complete. The applicant is no longer considering baghouses as the particulate control device for the PC boilers. ESPs will be used for particulate control from the PC boilers. As described in the October 26, 2001 permit application, ESPs are equal to baghouses in terms of BACT requirements.

MACT for mercury

Six commentors (NPCA, IDEM, VW Loeschner, Mitch and CATF) have concerns about the MACT for mercury. Five (IDEM, CATF, Loeschner, Mitch and VW) believe a CEM is necessary, some acknowledge that a CEM for mercury may not yet be commercially available, and four of the five have requested stack testing be included in the permit. NPCA believes activated carbon injection and 90% removal efficiency, as demonstrated through inlet and outlet mercury monitors, is required for MACT. VW believes that MACT for mercury is lower than BACT and the applicant should determine what is the best control.

Response: The applicant provided a case-by-case MACT that addresses mercury. The Division reviewed the submission and determined that it was acceptable. As indicated in the MACT Case-by-Case Determination, mercury emissions will be controlled through a combination of technologies: low NO_x burners and selective catalytic reduction (SCR); electrostatic precipitator ("ESP"); wet flue gas

desulfurization (WFGD); and wet electrostatic precipitator (“WESP”). The estimated control efficiency for the combined technologies is 80%.

Using the proposed combination of devices to control mercury emissions will equal emission controls achieved in practice by the best controlled similar source. The proposed limitation and controls reflect the maximum degree of reduction that can be achieved, taking into consideration the costs and non-air quality impacts. U.S. EPA has announced its intention to regulate mercury emissions under the MACT program. If a determination is made that MACT is more stringent than the required BACT, then the source will likely incur the cost of an expensive retrofit control technology.

The Division will require additional stack tests during the life of the permit to demonstrate compliance.

MACT limited to mercury

OBTC objects to contentions by TGS that U.S. EPA and DAQ do not have the authority to require that case by case MACT determinations done on steam electric utility plants address hazardous air pollutants other than mercury as being without a defensible legal basis under the Federal Clean Air Act.

Response: The Division concurs. The Division is aware that multiple HAPs may be regulated when the Electrical Utility MACT regulation is proposed, and finds nothing in the record that limits the case by case analysis to mercury.

CAM

Failure to include CAM Plan

Five commentors (EPA, NRDC, NPCA, IDEM and VW) argued that the applicant failed to include a proper CAM Plan in its application for a Title V operating permit. Two (IDEM and VW) believe that the specific requirements of the CAM Plan should be included in the permit and have suggested various requirements.

Response: Since the draft permit, the applicant has supplemented their CAM plan to include all applicable controls. The Division notes that programs in other states that do not have a combined construction/operating permit program allow at least one year before requiring application submittal for an operating permit with CAM requirements.

MISCELLANEOUS

Seven commentors (IDEM, VW, Loeschner, OVCG, AC, KRC, and McGhee) had miscellaneous concerns:

Lead emissions

Three commentors (IDEM, VW, and Loeschner) were concerned with lead emissions. Two (IDEM and VW) want a permit limit and stack testing and the applicant to analyze coal samples for lead content and HAPS; VW is concerned about the lack of calculations and

suggests weekly analysis of coal. One (Loeschner) wants enforceable permit limits for lead, stack tests, etc. and if “major” for lead, wants a complete BACT analysis.

Response: The application and supporting documents submitted by the applicant and reviewed by the Division include information related to lead emissions. Predicted lead emissions are worst-case and are expected to be much lower. The permit requires annual compliance testing and the Division retains the right to require more testing, if necessary. Lead emission limits included in the permit as is the requirement for quarterly fuel sampling.

Coal analysis

TGS should analyze the coal being burned.

Response: The Division had required a quarterly coal analysis for beryllium, fluorides, and mercury. Grab samples will be analyzed to ensure that the presumptive levels contained in the application are, in fact, representative of the applicant’s fuel. In response to comments the Division is including requirements for the source to perform testing for lead.

Annual stack testing

OBTC suggests that because of the size of the facility, the permit should be amended to require annual stack testing.

Response: The Division is aware that other states require annual stack tests for a variety of sources and has done so itself on a limited number of sources. The Division strongly feels that this is not always required for a new source using periodic monitoring. For metallic HAP pollutants of particular concern to public health and welfare of the environment, the Division is requiring periodic fuel sampling and annual compliance testing. The majority of criteria pollutants, i.e., SO₂, NO_x, and CO, will be monitored with CEMs as will opacity.

Control equipment should be operated at all times

OBTC requests that the permit should be amended to include a provision requiring that the plant shall not operate unless all air pollution control equipment is installed and operating properly.

Response: This is covered in 401 KAR 50:055 and the permit states in section E that:

“Pursuant to Regulation 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.”

Health impacts in addition to legal requirements.

Two commentors (OVCG and AC) had concerns on health impacts. OVCG was concerned with HAPs and AC was concerned with health impacts from SO₂/sulfate aerosols.

Response: The Division takes note of these comments. Health impacts as they relate to the air permitting process are addressed by ensuring the National Ambient Air quality Standards are protected.

Cost/benefit analysis

AC requested a thorough cost/benefit analysis.

Response: The application and supporting documentation submitted by the applicant and reviewed by the Division include the required cost/benefit analysis as part of the BACT determination (volume 1, section 4 of the application). No further cost/benefit analysis is required of the applicant.

Endangered Species

Multiple comments (KRC, NRDC, NPS) were received requesting a demonstration under the Endangered Species Act, since the area is habitat for the Indiana Bat, Gray Bat, and Eggert's Sunflower and other species that are under review.

Response: This permitting action is being performed under the authority and regulations of the Commonwealth of Kentucky. Only when a source is obtaining a Federal permit is it required to address the Federal Endangered Species Act.

Acid Rain

AC had concerns about compliance with the Acid Rain Program requirements.

Response: As indicated in the application and supporting documents submitted by the applicant and reviewed by the Division, the applicant will comply in all respects with the Acid Rain Program established under the CAA (40 CFR Part 175). The Division notes that federal law preempts state law in this area.

Dust, Noise.

McGhee had concerns regarding haul road impacts and emissions in general.

Response: As indicated in the application and supporting documentation submitted by the applicant and reviewed by the Division, the design of the facility is such that haul roads usage on site will be limited. Material is transported to the site by barge or rail and then conveyed to points using partial and/or full enclosures, as well as other emission control devices (e. g., baghouse, fogging, etc.) There may be some transport of waste material (perhaps gypsum or flyash), but all haul roads are required to use BACT level controls of paving and cleaning.

FLM notice was defective.

Four commentors (NRDC, NPS, NPCA and VW) had concerns that the FLM notice was defective and that the Federal Land Manager (FLM) did not have adequate time to review the application. NPS and NPCA believe the public was not notified of the NPS's concerns or why KDAQ agrees or disagrees.

Response: NPS raises a procedural issue with regard to the timing of the public hearing and whether or not the Division included all required information in the public notice. While the Division disagrees that the notice was not timely, the second notice and extended comment period should alleviate any concerns.

Section 15(1) of 401 KAR 51:017 contains the PSD rules regarding notice to FLMs. Specifically, it requires the Division to provide written notice to FLMs promptly after receiving the application, always within 30 days of receipt and at least 60 days prior to the public hearing on the application. This notice to the FLM must include an analysis of the proposed source's anticipated impacts on visibility in the Class I area. The Division received the applicant's application on March 1, 2001, and deemed it complete on April 23, 2001. The Division provided a copy of the application to the Mammoth Cave National Park FLM prior to the initial FLM comments the Division received on April 27, 2001. The Division held the public hearing on February 12, 2002, well over 60 days from the time the FLM received a copy of the application. The FLM provided additional comments on December 5, 2001 and February 14, 2002. In addition to the notice of the permit application, § 15(1) requires the Division to provide the FLM with a copy of the preliminary determination promptly after the cabinet makes that determination. The Division provided its preliminary determination to the FLM on December 28, 2001, along with the draft permit.

Further, 401 KAR 51:017 § 15(3) requires the Division to consider a visibility analysis performed by the FLM that is provided within 30 days of the written notice of the air permit application as described above. If the FLM's visibility analysis is provided in a timely fashion and the Division disagrees with it, the Division is required to include in the public notice required by 401 KAR 52:100 either an explanation as to why the Division disagrees with the FLM's visibility analysis or where such an explanation can be obtained. While the FLM submitted comments raising concerns about the potential impact of the proposed facility on Mammoth Cave National Park, those comments were based on the applicant's analysis and did not contain nor constitute a visibility analysis (i.e., a modeling report). Therefore the Division was not required to address the FLM's comments in the public notice.

Inadequate public availability of data

Four commentors (EPA, VW, NRDC and Loeschner) had concerns that there was inadequate public availability of data. EPA raised concerns because of incomplete/inaccurate information. VW believes there was inadequate public notice because the notice was not dated. NRDC believes that all data was not made available during the public comment period. Loeschner wants DAQ to catalog all comments, believes there was inadequate public notice, and questions DAQ's procedures that allow the applicant to provide information up to 10 days past the close of the public comment period.

Response: The Division acknowledges these concerns. A second public hearing has been held to address them. Additionally, the comment period was extended thirty (30) days.

Inadequate public availability of physical data.

OBCT raised concerns about the lack of chemical and physical characterization of exhaust streams. They contend that the public was denied adequate opportunity to perform a technical review of the BACT determination.

Response: The Division believes that all required information for BACT determination has been presented. While technical information on TGS's exhaust streams and control devices was brief in their application, the Division used appropriate "top-down" comparisons of the control techniques to determine BACT.

Reopening of public comment period

Six commentors (AC, CATF, VW, Mitch, Loeschner, and KRC) wanted the public comment period reopened. AC believes that all environmental impacts (including acid rain impacts) need to be considered. CATF believes that the permit application is incomplete and that additional time is necessary. VW and Mitch) want the draft permit withdrawn until DAQ receives a fully compliant application and then a new public comment period. KRC requests an additional 60 days due to NPS review.

Response: The Division acknowledges these concerns. A second public hearing has been held to address them. Additionally, the comment period was extended thirty days.

Should not be a PSD Permit

Loeschner believes that a non-attainment permit should be issued instead of a PSD permit as the facility will contribute to non-attainment of the ozone NAAQS.

Response: Muhlenberg is in an attainment or unclassified area, thus a PSD permit is what is required.

Commenced construction before getting permit

NRDC is concerned that the applicant commenced construction before getting a permit.

Response: The Division acknowledges this concern, but is unaware (after field investigation) of any construction activity at this point. The Division has determined that the mine is a separate source, and permitted it as such.

Corrections of inaccurate statements and clarification in application and statement of basis.

Two commentors (EPA and Loeshner) were concerned that statements made in the application and Statement of Basis were inaccurate.

Response: The Division acknowledges these concerns and has added additional language in the Final Determination/Statement of Basis to address this issue.

Missing or additional information

EPA believes additional information is required in the permit. EPA identified the following: Regulatory authority, description of emission units, BACT operations limitations, missing emissions limitations, testing, averaging times, enforcement, etc. (list of 25 areas that need to be addressed).

Response: The Division acknowledges these concerns and has revised the draft permit with appropriate wording.

Loeschner wants the SO₂ requirements provided in section B.7.b (p. 10) of the draft permit to be included for every emission, not just SO₂.

Response: The Division acknowledges the comment but does not concur.

Equipment Detail Description

EPA wants more detail in the equipment description.

Response: The application and the supporting documentation submitted by the applicant and reviewed by the Division include detailed equipment descriptions.

Single Source

EPA wants written justification as to why the mine and plant are not a single source prior to permit issuance.

Response: While the applicant will receive its coal from a nearby mine, the mine is a separate entity and with independent customers and is permitted as such. Transfer activities associated with the proposed facility were addressed in the application and modeling and are reflected in the permit.

Basis for Emissions Factors

EPA wants a basis for emission factors and corrections.

Response: The application and supporting documents submitted by the applicant and reviewed by the Division include the requested information.

Carbon monoxide monitoring

EPA wanted KYDAQ to consider adding a carbon monoxide CEMS requirement for the two pulverized coal boilers.

Response: Requirements for Carbon Monoxide Continuous Emission Monitors have been added to the permit.

Specific Control Equipment Operating Conditions for Pulverized Coal Fired Boilers, Emission Units 01 and 02

EPA wanted the permittee to address particulate control devices as necessary to maintain compliance with permitted limitations. Specifically, they must submit a CAM plan that would establish the control device parameters to record and ranges that will assure compliance with the applicable requirements of 40 CFR 64.4.

Response: This CAM requirement has been submitted in additional information to the Division.

Coal Handling Systems Emissions Unit Applicable Requirements and Monitoring

EPA wanted the installation of control devices and the inclusion of emissions rate limitations, based on air quality modeling and BACT requirements, in the permit. Also, U.S. EPA requested the permit must specify monitoring.

Response: The permit does contain language describing the precautions to be taken to minimize dust from coal handling. Language for monitoring and record keeping has been added to assure compliance with 401 KAR 63:010 and 401 KAR 51:017.

Specific Control Equipment Operating Conditions for Emissions Units 06 – Coal Piles, Emissions Unit 07 – FGD Reagent Prep Handling, Emission Unit 09 – Fly Ash Handling System

U.S. EPA suggested that the permit include operating conditions and monitoring that will ensure compliance with the applicable requirements of 40 CFR 70.6(a)(3)(i)(B) and (c)(1). EPA also said the permittee must determine the parameters to record and ranges that will assure compliance with the requirements.

Response: The operation of control equipment in accordance with the manufacturer's specifications, performance of qualitative visual observations, and fulfillment of the prescribed recordkeeping activities as stated in the permit, will serve as a means to determine compliance.

Section D.2 and D.3 Performance Tests Requirements

The concern expressed was that these sections required performance testing for certain pollutants and emission units. However, the section did not specify when those tests must be performed. For practical enforceability purposes, they should include a time frame indicating when these tests should be conducted.

Response: The Division acknowledges the concerns and has added compliance testing in the permit to address these comments.

Maintaining compliance with the 1-hr and 8-hr ozone standards

CATF, OVCG, and EEPA/VC addressed concerns with continued ozone compliance.

Response: The Division does not anticipate violations of either the 1-hr or 8-hr ozone standards due to the construction of the Thoroughbred Generating Station. This expectation is based on the level of estimated emissions of nitrogen oxides and volatile organic compounds from the proposed facility and the amount of these pollutants currently being emitted to the atmosphere in the area. Additionally, the division has adopted regulations to implement the Federal NO_x SIP call which will result in regional ozone improvement.

Calpuff modeling using the FLAG conventions

NPCA and CATF: The source should have followed the FLAG Phase I Report guidelines for visibility impairment analysis.

Response: The FLM has determined that TGS began the permitting process prior to the new FLAG guidance implementation in April of 2001, therefore those guidelines are not applicable.

Calpuff modeling concerns

U.S. EPA commented that TGS did not properly use a fine receptor grid to ensure that the maximum concentrations were identified by the modeling. In addition, the proper NAAQS compliance assessment was not provided. EPA requested that TGS include monitored background concentrations in addition to modeled impacts.

Response: TGS remodeled using a fine receptor grid and the background concentrations in accordance with U.S. EPA's comment and found that no NAAQS would be violated.

Errors in modeling

NPS had concerns with the Calpuff modeling.

Response: TGS has performed additional modeling to correct errors in the original analysis. NPS has verified and accepted the TGS modeling.

No modeling for Louisville maintenance area

SC commented that DAQ failed to carry out air quality analyses for Louisville and southern Indiana.

Response: No NAAQS or PSD analysis was done or required for this area as it is well beyond 100 km from the proposed TGS site. Both DAQ and Jefferson County shall take appropriate measures to ensure compliance with the ambient standards.

Certain years of meteorological data were used in lieu of other data that were available

VW questioned the selection of what meteorological data was used, and why Evansville or Owensboro was used for modeling.

Response: This was addressed in the modeling protocol. 1988 and 1989 data were not available both Paducah and Nashville. The meteorological data used in the modeling analysis was deemed representative by U.S. EPA Region 4, the National Park Service and the Division.

Onsite meteorological data should have been used

VW commented that only on site meteorological data should be used in the air quality modeling.

Response: It has long been U.S. EPA's guidance that meteorological data from the nearest collection sites can be used in such analyses (See 40 CFR 51 Appendix W). On-site meteorological data would be preferable but it is rarely available especially for multiple years.

Ammonia limiting method should have been used.

NPCA commented that ammonia limiting should have been used in the modeling.

Response: TGS's consultant, Kentuckiana Engineering, has run the model with and without ammonia limiting and found no significant difference between the two methods. The U.S. EPA and the National Park Service has accepted the TGS modeling.

Sulfuric Acid Mist is too high (326 Tons/Year)

VW commented that the potential to emit sulfuric acid mist is too high.

Response: Kentucky's Prevention of Significant Deterioration regulation (401 KAR 51:017) does not define a "Significant Impact Level" for sulfuric acid mist. The permitted emission rate of H₂SO₄ mist is 0.00497lb/mmBTU which has been deemed BACT (Best Available Control Technology) by the Division. In addition there are no ambient limits set by this Division or U.S. EPA and therefore no way to objectively judge whether or not the annual emission rate of 326 tons is too high. TGS performed total sulfate deposition modeling for Mammoth Cave and the Division concurs that there will be no significant impact on vegetation and soils in the park.

Cumulative impact on Soils and vegetation

U.S. EPA suggested that TGS should include a cumulative impact analysis on soils and vegetation.

Response: Kentucky's Prevention of Significant Deterioration regulation (401 KAR 51:017) only requires TGS to determine their impact, along with secondary growth, on soils and vegetation. TGS has performed that required analysis.

Sulfate and nitrate deposition levels predicted by TGS are too high

NPCA states that the sulfate and nitrate deposition levels predicted by TGS are too high and exceed the Deposition Analysis Threshold (DAT).

Response: Although the DATs did not exist at the time TGS first submitted their application and the associated air quality analysis, sulfate and nitrate deposition analyses were performed. The predicted increase in sulfate deposition represents a 0.68% increase over the current levels cited by the commentor.

PSD emissions inventory inaccurate

NPS is concerned that the PSD emissions inventory is inaccurate.

Response: TGS responded on dated March 10, 2002, confirming the accuracy of the PSD emissions inventory.

Emissions inventory stack velocities inaccurate or unrealistic

U.S. EPA commented that the stack velocities are inaccurate or unrealistic.

Response: TGS responded on March 10, 2002, either confirming or correcting stack velocities that exceed usual levels.

Missing BACT analyses for baghouses, bin vents, and fugitive emissions

U.S. EPA and IDEM comment that BACT analyses for baghouses, bin vents, and fugitive emissions are required.

Response: The Division concurs with the source that the best available controls for these particulate sources have been chosen. As the final determination of vendors for state-of-the-art filters and baghouses have not been determined, and since construction will be several years in the future, TGS will be required to submit for review detailed design specifications at the appropriate time, in accordance with the general requirements of 401 KAR 52:020 (Title V Permits).

"Beyond BACT"

U.S. EPA comments that there is no definition for "beyond BACT".

Response: The Division has removed this phrase.

BACT required during startup and shutdown

U.S. EPA comments that BACT is also required during periods of startup and shutdown.

Response: The Division concurs that BACT is required during all periods of operation (see Steven A. Herman's and Robert Perciasepe's memo of September 20, 1999). 401 KAR 50:055 requires appropriate procedures and controls during periods of start-up and shutdown. Source's compliance with 401 KAR 50:055 will be BACT for the source.

Previously there was a condition in the draft permit that stated:

"Particulate matter; nitrogen oxides; sulfur dioxide; carbon monoxide; VOC; beryllium; sulfuric acid mist; hydrogen fluoride; and mercury emission standards apply at all times except during periods of startup, shutdown, or malfunction"

This statement is overly broad and is an inaccurate paraphrase of 401KAR50:055. U.S. EPA has stated plainly in guidance that automatic exemptions are not to be granted from emission standards during periods of start-up, shutdown and malfunction. An automatic exemption would be in violation of 401 KAR 50:055. In addition, even during these periods the source continues to be required protect the ambient air standards and the PSD increment. DAQ has revised the permit.

Coal washing should be used

IDEM, Valley Watch, CATF, and SC(Landers) suggest that coal washing should be used.

Response: TGS has submitted additional information available prior the second public hearing showing that coal washing has only minor benefit in the reduction of sulfur dioxide, PM and Hazardous Air Pollutants. The Division's review found that the relevant energy, environmental and economic impacts are substantial and preclude washed coal as a viable option.

CATF discusses in details the types of coal washing techniques not covered in TGS's application and submittals, contending that the exclusion of "dry washing" and other techniques to remove pyrite and inerts does not meet the requirements of BACT. While the Division agrees that CATF makes valid technical points, the Division's decision to preclude coal washing was made based on the required top-down BACT approach.

BACT must be used, BACT analysis incomplete, missing control technologies not chosen

IDEM, VW, NRDC, OBTC, CATF, Finto, Loeschner, etc. commented that BACT was not used where required, BACT analyses that were done were incomplete, and viable control technologies were missing from BACT analyses and therefore were not chosen when they should have been.

Response: Comments have been received over TGS's selection of its coal combustion technology and various and myriad sources have suggested the use of fluidized bed (FB) combustion technology or gasification. Based on published EPA guidance, the Division does not concur that the scope of PSD was intended to apply to the selection of technology. BACT is being determined for a pulverized coal combustion process. Even if TGS were to construct 10 smaller FB units instead of 2 large bottom fired units, the controls being installed produce emission levels comparable to or better than previous FB BACT determinations. The Division's exclusion of gasification was made on the basis that consideration of gasification would be a fundamental redefinition of the project, which is not required or appropriate during PSD review

OBTC questioned TGS's failure to include multiple pollution control devices such as combustion injection of lime and lime straw dryers to reduce SO₂. While the Division acknowledges that this technical strategy may, potentially, reduce emissions, it does not concur in the need to include multiple stage control strategies for a valid BACT determination.

BACT incomplete

OBTC and SC(Landers) comment that the BACT analysis is incomplete since coal blending was not considered.

Response: The Division does not consider the mine and TGS to be a single source and thus exempt from review of burning lower sulfur coal. The Division has determined that this project is designed to burn high sulfur eastern coal, and that fuel switching to the extent suggested by OBTC would be a fundamental redefining of the source and therefore precluded by PSD regulations. OBTC is correct that the permit does not contain an upper bound on coal sulfur content, but there is an inherent requirement for a source to construct and operate as described in their application and on the same basis under which their BACT analysis was

performed. There are also explicit requirements that the source comply with their emission limits, no matter what the sulfur content of the coal they use as fuel.

While the application does refer to this as a “mine-mouth” facility, the Division's analysis was not performed assuming that the powerplant was incapable of burning anything but coal from the adjacent mine. The Division does find, however, that the powerplant was designed with integral characteristics to burn Kentucky-type coal, with controls and combustion specific to this material. A plant designed to burned Western or Powder River Basin coal would be a fundamentally different design, consideration of which is precluded under the PSD rules.

BACT incomplete

OBTC comments that the Division does not consider SO₂ reduction benefits when eliminating a baghouse as BACT. They contend that the Division did not consider control downtime when making its BACT decision.

Response: The Division concluded ESPs qualified as "best" level of controls for PM emissions. While the Division does not believe that the acidic and wet exhaust stream would automatically preclude the use of baghouse technologies, there are clear technical concerns that upon review justify the use ESP controls.

Control equipment "downtime" is regulated under 401 KAR 50:055 and PSD. Failure to operate the ESPs while the facility is operation would be a violation of the standards and subject to enforcement. During scheduled maintenance of any equipment, TGS is required to operate in such a manner as to minimize emissions. In no case are they allowed to exceed the ambient air quality standards.

BACT incomplete

OBTC comments that the BACT analysis is incomplete because opacity limits are not included.

Response: The Division has reviewed BACT for all pollutants that affect ambient air quality.

Ammonia

OBTC comments that ammonia should be monitored.

Response: As the source is required to monitor NO_x emissions with a CEM, the Divisions did not require the redundancy of monitoring ammonia to ensure good control and operation of the SCR.

TGS failed to justify averaging emission times of SO₂, NO_x and CO.

U.S. EPA and VW comments that TGS failed to justify averaging times for sulfur dioxide, NO_x, and CO emissions.

Response: Emission averaging times are required to ensure protection of the ambient air quality standards and as part of BACT determinations. The BACT emission

averaging time should be used as part of the technological demonstration and to demonstrate compliance. The Division has chosen a thirty (30) day averaging period as appropriate for the BACT purposes at this facility.

The Division acknowledges that TGS had modeled compliance with short term National Ambient Air Quality Standards (NAAQS) based on an hourly emission rate that is an average of the thirty (30) day BACT average. NO_x has an annual NAAQS standard and no change is required. A CO CEM is now required in the permit to demonstrate compliance with that emission limitation. A 24-hour SO₂ emission limitation has been added to the permit to ensure compliance with the NAAQS and increment.

Use of a PM CEM

U.S. EPA suggested that TGS use a PM CEM.

Response: On December 12, 2001, the proposed PM CEM method was published in the Federal Register. Upon review of the proposed specification, the Division has determined that the wet stack at TGS will make operation of a PM CEM difficult, if not impossible, at this time. Additional information indicates this CEM is not commercially available at this time.

U.S. EPA COMMENTS ONLY (2/26/02)

Applicant must use BACT.

Response: The Division concurs.

The Division should assess whether the proposed mercury emissions pose a risk of adverse impact on ambient environment.

Response: The comment has been noted. The modeling results later submitted indicate mercury will not have an adverse impact on air quality.

Proper PSD increment consumption analyses for both PM and SO₂ have not been provided.

Response: Baseline increments were initially submitted and additional information has been received by the Division and the U.S. EPA. Proper increment consumption analysis has been done and have been approved by the U.S. EPA since this comment was received.

The Statement of Basis (SOB) must include a discussion of decision making that went into the development of the Title V permit.

Response: The comment has been noted and the SOB had been amended to address the concerns.

Delete "information from the application is given and assumed" language.

Response: The text has been deleted.

PSD involves six requirements, however, the SOB has seven requirements.

Response: The comment has been noted and the correction has been made.

The reference to “perceived and believed” must be replaced by language stating that if any emissions are seen, then the opacity must be determined using an approved reference method.

Response: The comment has been noted and changes have been made in the permit.

The original public notice posted on the KYDAQ web site on January 9, 2002 included increment consumption for the facility but failed to mention visibility impacts.

Response: This concern has been noted and addressed in the revised draft permit public notice.

COMMENTS ON THE REVISED DRAFT PERMIT

JCAPCD and Richards wanted KYDAQ to request monthly fuel grab samples instead of quarterly for beryllium, fluorides, and mercury.

Response: The Division acknowledges the comment. The regulatory requirement for compliance monitoring has been appropriately addressed in the permit.

JCAPCD wanted KYDAQ to request monitoring for the PM control devices on Emission Units 04,07,08 and 09 and for the drift eliminators on units 10 and 11.

Response: The Division acknowledges the concern and has added monitoring requirements to the permit to address these comments.

Richards wanted installation of BACT to reduce air emissions to meet permit limits.

Response: The Division acknowledges the comment. The conditions outlined in the permit address the concern.

Richards wanted KYDAQ to install adequate monitors for regulated air pollutants from the facility.

Response: The Division acknowledges the comment. There are already monitoring stations in the area proposed of plant construction. There is no need for additional monitors.

SMW asked what type of pollution control system would be installed.

Response: They include Low NO_x burners, Selective Catalytic Reduction, Electrostatic Precipitator, Wet Electrostatic Precipitator, and a Wet Limestone Scrubber.

SMW asked if AHEPA filters were going to be used. They also requested information about which type of filter would be used and for evidence of their effectiveness at similar sites.

Response: The Division does not have the authority under Kentucky Revised Statutes Chapter 224 to require a source to use a particular type of control device, provided the source satisfies the regulatory requirements satisfactorily. The Division has approved the source's design.

SMW asked who would be doing the emissions monitoring?. What standards will be used? What percentages will be used in the monitoring? Also, if the emission standards are changed or modified by the pertinent government agency, what will be the position of Peabody in regards to these changes?

Response: The plant will install Continuous Emissions Monitoring systems to monitor each boiler and its output. The vendor will install and calibrate the systems and plant personnel will maintain and monitor their function in accordance with the requirements of 40 CFR 75. Monitoring procedures used by the site will be periodically reviewed by the division's inspection and compliance staff. If standards applicable to TGS are changed, the permit will be reopened and changed to reflect the new requirements.

SMW asked what are the projected release amounts of each contaminant?

Response: See the revised permit and the preliminary determination.

SMW asked what are the accumulated projected health effects on the general populace downwind from the proposed site? What are the potential acute health effects? What are the long-term chronic health effects? Who is responsible and liable for health effects caused by this plant?

Response: The Natural Resources and Environmental Protection Cabinet has general authority under Kentucky Revised Statutes Chapter 224 to maintain an air quality program. The Division is not authorized to establish health standards. TGS, as designed and permitted, will meet all applicable state and federal standards for protection of the environment.

SMW asked will this site have any radiation emissions? Will any type of radiation be present on site that the public should be aware of? If there are radiation emissions, will readings take place? What will be the release amounts?

Response: The Division is not aware of any reason why the TGS facility should have any impact on radiation levels above those of ambient conditions. Concerns about radiation safety should be addressed to the Public Service Commission and the Cabinet for Health Services.

SMW asked if there is the potential for any type of toxic emission release? If yes, has an emergency plan been approved? What protective measures are in place to protect the general public from this safety issue? In case of release, will testing of the general population take place and how often will testing take place. Also, for what period of time will the testing of affected residents continue? Is there a projected "footprint" that has been prepared to show the general population the track of all emissions that will affect both the general population and the environment?

Response: As required by regulations, analyses have been completed for Hazardous Air Pollutants (HAPs). Initial and revised air modeling was done using the Calpuff model. Numerous iterations were performed by varying the values used for receptor height, urban/rural classification, receptor grid, etc. while using Calpuff. This program has been approved by the U.S. EPA for use in predicting pollutant concentrations at the proposed site and in surrounding areas. None of the modeling runs showed concentrations exceeding regulatory levels. Consequently, the Division has concluded that pollutant emission concentrations resulting from this facility, as permitted, would not require additional restrictions in order for the plant to comply with any applicable Commonwealth or federal regulation. To ensure that the emission limits contained in the permit are not exceeded, the Division has included requirements for continuous monitoring of emissions in the permit.

SMW asked once the plant has outlived its use, will Peabody restore the site to its original pristine beauty?

Response: The Division does not have authority in this area of concern. Questions of this nature should be addressed to the Public Service Commission.

SMW asked if this permit (if granted), provides both construction and operating authority?

Response: Yes

OBTC states that the permit is deficient because the language of the permit does not explicitly identify which applicable requirements in the permit are federally enforceable and which elements are state-only enforceable.

Response: Kentucky's permitting regulation states that unless a condition is identified as a "state-only" requirement that all conditions are federally enforceable. All conditions in this permit are federally enforceable unless identified otherwise.

Confidential Business information

OBTC and several other commentors had concerns about material submitted by TGS that was later returned to them.

Response: This material consisted of input files used by TGS to produce the Calpuff modeling runs required by the Division. Commentors are correct that this information was not entitled to treatment as trade secret or Confidential Business information under 401 KAR 1:050:

(3) "Trade secret" means a novel or unique plan or process, tool, mechanism or compound, known only to its owner, his employees or former employees, or persons under contractual obligation to hold the information in confidence, which has been perfected and appropriated by the exercise of individual ingenuity, and which gives him an opportunity to retain or obtain an advantage over competitors who do not know it;

(4) "Confidential business information" means any record or other information relating to hazardous waste, which is not of public knowledge or general knowledge in the trade or business, furnished to or obtained by the cabinet, the disclosure of which would be likely to have either of the following effects:

However, the information was held as confidential information as allowed under 401 KAR 1:050, which states that information claimed as confidential will not be released until a determination as to its confidentiality is made by the Division and the source is given notice of that determination.

Upon notifying TGS that the information would not be held as confidential, TGS requested that the material be returned to them, as it contained copyrighted information. Since the information had not been used in the permit review process (the Division had confirmed the validity of the modeling results by comparison with results obtained from the National Park Service), the input files were returned to TGS.

It is not unusual for submittals of material from sources to be returned to them, if confidentiality is requested but not granted. TGS was offered no advantage or unusual treatment in that regard.

Additional Comments

Comments were received from multiple individuals and organizations both in support of and in opposition to the project. These comments did not address specific permitting issues.